

this period contain an extremely small proportion of living species, which may be looked upon as indicating the dawn of the existing state of the testaceous fauna, no recent species having been detected in the older or secondary rocks.

The term *Miocene* (from  $\mu\epsilon\iota\omicron\nu$ , *meion*, *less*, and  $\kappa\alpha\iota\nu\omicron\varsigma$ , *cainos*, *recent*) is intended to express a minor proportion of recent species (of testacea), the term *Pliocene* (from  $\pi\lambda\epsilon\iota\omicron\nu$ , *pleion*, *more*, and  $\kappa\alpha\iota\nu\omicron\varsigma$ , *cainos*, *recent*) a comparative plurality of the same. It may assist the memory of students to remind them, that the *Miocene* contain a *minor* proportion, and *Pliocene* a comparative *plurality* of recent species; and that the greater number of recent species always implies the more modern origin of the strata.

It has sometimes been objected to this nomenclature that certain species of infusoria found in the chalk are still existing, and, on the other hand, the *Miocene* and *Older Pliocene* deposits often contain the remains of mammalia, reptiles, and fish, exclusively of extinct species. But the reader must bear in mind that the terms *Eocene*, *Miocene*, and *Pliocene* were originally invented with reference purely to conchological data, and in that sense have always been and are still used by me.

The distribution of the fossil species from which the results before mentioned were obtained in 1830 by M. Deshayes was as follows:—

In the formations of the Pliocene periods, older and newer	-	777
In the Miocene	- - - - -	1021
In the Eocene	- - - - -	1238
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		3036
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Since the year 1830, the number of new living species obtained from different parts of the globe has been exceedingly great, supplying fresh data for comparison, and enabling the paleontologist to correct many erroneous identifications of fossil and recent forms. New species also have been collected in abundance from tertiary formations of every age, while newly discovered groups of strata have filled up gaps in the previously known series. Hence modifications and reforms have been called for in the classification first proposed. The *Eocene*, *Miocene*, and *Pliocene* periods have been made to comprehend certain sets of strata of which the fossils do not always conform strictly in the proportion of recent to extinct species with the definitions first given by me, or which are implied in the etymology of those terms. Of these and other innovations I shall treat more fully in the 14th and 15th chapters.

#### POST-PLIOCENE FORMATIONS.

I have adopted the term *Post-Pliocene* for those strata which are sometimes called *post-tertiary* or *modern*, and which are characterized